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## Judiciary Square

### Transportation and Security Study

August 2004



*DISTRICT DEPARTMENT OF TRANSPORTATION*



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## I. Introduction and Project Background

### *Introduction*

Judiciary Square is one of Washington's oldest districts. Home to the Federal and District Courts, federal and district government agencies, and several museums and monuments, Judiciary Square has long been a thriving area with a diversity of activities. Judiciary Square also lies on the border between the District's monument core and the traditional downtown. The mix of uses in the Judiciary Square area offers points of interest to the different groups of people that frequent the two neighboring areas.

Major physical changes within Judiciary Square are planned. The Freedom Forum has obtained the necessary approvals to permit construction of the Newseum at the corner of Sixth Street and Pennsylvania Avenue, NW. The National Law Enforcement Officers Memorial Fund, a nonprofit organization that built and now oversees the National Law Enforcement Officers Memorial, has plans for a National Law Enforcement Museum to be constructed just south of the current Law Enforcement Memorial. Construction is evident elsewhere in the area, and plans — some encompassed in the DC Courts Master Plan — suggest further changes ahead.

Nationally, the effects of September 11, 2001, and bombing of the Murrah Building in Oklahoma City are but two major events that have raised awareness and heightened the desire for greater security of potential terrorist targets. The closing of Pennsylvania Avenue in front of the White House and the barriers surrounding other federal buildings and national monuments are evidence of the reaction to terrorist activities.

The Judiciary Square Transportation and Security Study was initiated by the District of Columbia Department of Transportation (DDOT), in cooperation with numerous federal, regional, and district agencies and private organizations, to come to terms with the apparently conflicting goals of increasing security while also improving access and mobility within Judiciary Square. This study represents the first comprehensive look at meeting these competing objectives and developing solutions to existing transportation and security concerns.

### General Description of the Study Area

Judiciary Square, for purposes of this study, encompasses the approximately 11.5 acres of land surrounding the historic square by the same name. The study area is bordered on the west by Sixth Street, NW, on the south by Pennsylvania and Constitution Avenues, on the east by Louisiana Avenue and First and Second Streets, NW, and on the north by H Street, NW. *Figure 1* shows the study area boundaries.

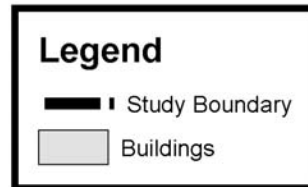
Within the study area are approximately 85 buildings with current and soon-to-commence construction that will alter that total. Approximately a dozen of these buildings house major federal and District government agencies and courts and at least one international institution. *Table 1* lists the major buildings within the Judiciary Square study area.

**Table 1: Major buildings**

General Accounting Office	FBI Field Office	Judiciary Square Building
National Building Museum	Judiciary Center	Juvenile Court
WMATA Headquarters	One Judiciary Square	Police Court
Security and Exchange Commission	Henry J Daly Building (Municipal Center)	Court of Appeals for the Armed Forces
H Carl Moultrie I Courthouse	E Barrett Prettyman Courthouse	Superior Court of D.C. (Old City Hall)
The National Academies	Department of Labor	CWA Building
Canadian Embassy	U. S. Tax Court	

Two major tourist destinations lie within the study area. The old Pension Building has been a major institution in the area for over a century and is now the home of the National Building Museum. The museum houses exhibits related to architecture and urban design. It also serves as the venue for many gatherings and events including the Presidential Inaugural Ball. The National Law Enforcement Memorial honors law enforcers who have died in the line of duty. In addition to a permanent monument, the Memorial is also the venue for an annual commemorative gathering honoring law enforcers. Both of these sites draw thousands of visitors each year.

The map displays the proposed New Haven Light Rail route, which is indicated by a thick black line with white dashed segments. The route begins at the top left, near the intersection of 6th St and 1st St, and proceeds south along 6th St. It then turns east, following the northern edge of the city center, passing through 5th St, 4th St, 3rd St, 2nd St, and 1st St. The route continues south along 1st St, passing through 6th St, 5th St, 4th St, 3rd St, 2nd St, and 1st St. The route then turns east, following the southern edge of the city center, passing through 6th St, 5th St, 4th St, 3rd St, 2nd St, and 1st St. The route ends at the bottom right, near the intersection of 1st St and 6th St. The map also shows major streets such as Massachusetts Ave, Interstate 395, and various local streets like 1st St through 6th St, G St, F St, E St, D St, C St, B St, and A St. The map includes building footprints, parks, and other urban features.



### ***Anticipated Changes to Judiciary Square***

Significant changes are anticipated for Judiciary Square. At least a dozen major construction projects are underway or proposed. While funding for some of these projects is uncertain and timing of construction remains open, it is appropriate to base any planning on the realization of these plans.

At the present time, buildings are being constructed at:

- Sixth and F Streets, NW
- Massachusetts Avenue and Fourth Street, NW
- Between Massachusetts and H Street, NW
- Third and C Streets, NW (an expansion of the Prettyman Courthouse).

The Newseum has received the necessary approvals and design is underway to construct an approximately 350,000 square foot mixed use facility that would include the museum itself and 126 residential units with associated parking. This building will fill the site adjacent to the Canadian Embassy and sit on the corner of Pennsylvania Avenue and Sixth Street, NW. Access to the building will be off Pennsylvania Avenue, Sixth Street, and C Street, NW.

The Law Enforcement Museum will occupy a site north of the Old City Hall to the southern limit of the National Law Enforcement Memorial including the area under E Street, NW. This 87,380 square foot facility will house museum exhibits and associated services.

The DC Courts Master Plan has proposed seven major construction projects:

- an expansion of the southern façade of the H Carl Moultrie I Courthouse
- a new northern entrance to the H Carl Moultrie I Courthouse
- a parking structure to the west of the Old City Hall
- a parking structure to the east of the Old City Hall
- an expansion to Courthouse Building A west of Judiciary Square
- an expansion to Courthouse Building B east of Judiciary Square.

Generally, these new buildings will increase the number of people attracted to the study area but are not expected to increase the amount of

vehicular traffic as they are to make no provision for visitor parking. Only limited quantities of parking are being constructed and most new parking replaces existing, surface parking. In addition, the Newseum will displace a large surface parking lot currently occupying the construction site.

### ***Purpose of the Study***

The Judiciary Square Transportation and Security Study seeks to identify means of improving transportation within the study area while improving security around the various buildings. These two goals are often viewed as being in competition; this study presents means for improving both, often with the same measures.

### **Transportation**

The transportation element of this study will investigate the patterns and factors which effect the operation of all forms of traffic in Judiciary Square including:

- traffic behavior and conditions
- parking provision and operation
- transit ridership
- pedestrian behavior and facilities
- provision for bicycles.

### **Security**

The security element will investigate:

- the type of threats
- the level of risk
- the existing methods of enforcing security
- the impact of existing transportation conditions on security.

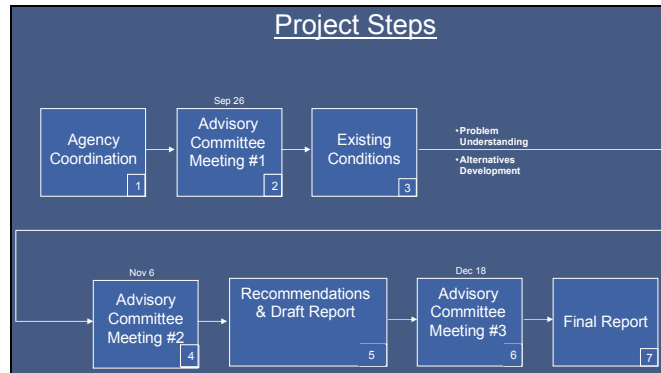
This study, therefore, will identify means of:

- accommodating the mix of uses within Judiciary Square by offering an improved transportation system that safely and effectively moves people via the full range of modes
- improving access and mobility to and within Judiciary Square
- improving security of the most sensitive buildings by more efficiently moving traffic and pedestrians in and around the public streets and pedestrian ways
- creating a framework whereby public and private organizations can work together to improve transportation and security while

maintaining an open atmosphere that has always typified Judiciary Square.

### Scope of the Study

The Study is organized around seven principal tasks. Technical tasks were performed by DDOT and its consultants HNTB, with coordination and collaboration maintained by a Study Advisory Committee. *Figure 2* depicts the seven major tasks contained within the scope of work.



**Figure 2: Major Tasks**

The project commenced by organizing a Study Advisory Committee comprised of:

- representatives of the public agencies located within Judiciary Square
- representatives of the public agencies, both federal, regional, and local, who have oversight and management responsibility for various activities across a broad geographical area but including Judiciary Square
- representatives of the private organizations located or planning to locate within Judiciary Square.

A complete list of the participants to the study is shown in *Appendix A* of this report.

The Study Advisory Committee met with the Study Team to initiate the project. At that meeting, the Committee:

- met the principals of the Study Team
- reviewed the proposed scope of work
- received a request for data and other information
- shared priorities and concerns

- expressed expectations about the outcome of the study
- offered direction for investigation.

The next task in the process was to collect and assemble information on existing conditions within the Study Area. The Study Team consulted secondary sources including DC government files and the DC Courts Master Plan. Field inventories and studies quantified traffic and parking, and noted features and issues within the study area. Meetings with nearly all of the stakeholder agencies yielded further insights into activities within the study area. The Study Team also toured ten buildings considered to be of the greatest security concern within the study area.

The data collection and field observations combined with the discussions with Study Advisory Committee members produced many ideas on the nature of the deficiencies within Judiciary Square and concepts that might be developed to respond to those deficiencies with cost-effective, realistic solutions.

The findings from the existing conditions analysis and initial concepts for improvements were shared with the Study Advisory Committee at a second committee meeting. There, the Committee generally endorsed the findings and offered comments on the viability of the solutions.

The proposed alternatives were then developed in greater detail. Specifics of physical, operational, and institutional changes were developed and organized for consideration by the Committee.

The Committee will again meet in mid-December to review the concepts and to make decisions regarding their implementation. Further refinements are anticipated. The results of this work will be assembled into a final report document that will be presented to the Study Advisory Committee and ultimately to the DC Department of Transportation.

## II. Data Collection

Data for this project was assembled from a variety of sources. The Study Team made use of existing information and conducted a field study. Information was acquired from:

- databases of traffic, transit, and safety
- specialized studies of transportation, urban design, and architecture relevant to specific facilities within the study area
- field inventories, counts, observations, and interviews with key individuals within the study area.

Curb side data was collected by a combination of inspection and GPS. The data is included in *Appendix B*.

### ***Existing Data Sources***

The Judiciary Square Transportation and Security Study took advantage of other work done in the study area. Both individual efforts, such as the DC Courts Master Plan Study, and ongoing efforts, such as the accident statistics maintained by the DC Department of Transportation, were employed for this study.

*Tables 2 and 3* summarize the data collected from public agency sources and the information collected from previous studies conducted within Judiciary Square.

Table 2: Data from public agencies

Source	Data	Details
District of Columbia Department of Transportation	Accident summaries (2000, 2001, 2002)	Number and details of reported automobile accidents
	Base mapping	Planimetric mapping of the study area
	Traffic volumes	Average daily traffic on principal streets within the study area
	Proposed Bicycle Routes	
Washington Metropolitan Area Transit Authority	Bus schedules	Current schedules for all routes running within the study area
	Bus ridership	Boardings and alightings by stop and route
	Metrorail ridership	Passenger volumes entering and exiting Metrorail stations for an average weekday

Table 3: Data from previous studies

Source	Data	Details
Wells and Associates	Law Enforcement Museum Traffic Study	Traffic counts and analysis of key intersection
Kroll	Security Considerations for Schematic Design, National Law Enforcement Museum	Analysis of security issues
Metropolitan Architects and Planners, Inc.	Judiciary Square Master Plan	Existing Conditions and Recommendations for the Judiciary Square area
Freedom Forum	Newseum Site Civil Plan	
United States Courts District of Columbia Circuit	Safety and Security Risks that would result from Tour Buses on the East End of C Street	Analysis of traffic and security on C Street
National Capital Planning Commission	Comments on Judiciary Square Master Plan Guidelines on Security Features for the Monumental Core	
Department of Motor Vehicles	Fiscal Year '05 Plan	

### DC Courts Master Plan

In November 2002, the District of Columbia Courts initiated a study to formulate a master plan for expansion and improvement of the physical facilities in the Judiciary Square area. The Courts development program includes the restoration of historic buildings, expansion of an existing courts structure, and the construction of below grade parking, all within the context of a rapidly evolving and publicly-oriented area of the District of Columbia.

From a transportation perspective, the Courts Master Plan supplied important information on:

- demographics of the study area
- parking supply and demand
- traffic volumes and operations
- bicycle and pedestrian transportation
- public transit services
- on-street loading facilities and operations.

### Other Sources

The Department of Motor Vehicles shared their FY '05 Plan which describes the expansion of services in the satellite facilities.

O.R. George, consultants on the Judiciary Square Master Plan, provided turning counts and Level of Service (LOS) calculations for the intersections within the study area.

### *Project-Specific Data Collection*

#### ATR Counts

Automatic traffic counts were taken using pneumatic tubes on Tuesday, October 7 through Thursday, October 9, 2003. These were 24-hour counts summarized at 15-minute intervals.

Counts were taken at seven locations.

- Third Street between D and E Streets, NW
- Sixth Street between D and E Streets, NW
- C Street just east of Sixth Street, NW
- Indiana Avenue between Fourth and Fifth Streets, NW
- E Street between Fourth and Fifth Streets, NW
- F Street between Fourth and Fifth Streets, NW

- G Street between Fourth and Fifth Streets, NW.

All of these streets are two-way at the count locations, so bidirectional counts were taken. The locations of where the counts were taken are shown in *Figure 3*

### Speed and Delay

Speed and delay runs were conducted in both directions on D Street, E Street, Third Street, and Sixth Street through the study area. Measurements were taken using the average vehicle method. The test car was driven at the perceived average speed of the traffic on a particular route and the following information recorded:

- total travel time in seconds
- duration in seconds and cause of each delay
- length of route (measured from mapping).

### Parking Restrictions, Rates, and Spaces

Curbside parking restrictions were inventoried throughout the study area. Restrictions, hours of the restrictions, and nature of permits were identified. The rates and restrictions on parking in the study area were recorded off the existing signage and meters. Spaces were counted in the field where there were markings or meters to indicate the number of spaces; in other cases the number of spaces available was estimated.

### Bicycle and Pedestrian Inventory

A detailed on-the-ground investigation of the study area was undertaken to inventory bicycle and pedestrian facilities and behavior. Items observed include:

- location of bike racks
- location of parked bicycles
- principal pedestrian movements
- type and location of wheelchair ramps
- crosswalk locations.



## Other Observations

In addition to the above the following items were also recorded:

- loading zones and bays
- bus stop locations and the provisions at those locations.

## Security

The study team conducted interviews with fifteen stakeholders and carried out building tours with ten additional stakeholders in the Judiciary Square area. The objective of the interviews was to establish a base line of perceived and actual vulnerabilities and threats to the stakeholder as well as transportation issues. The interviews focused on stakeholder security concerns and issues as they relate to the:

- Judiciary Square study area
- facility they occupy
- occupants of these facilities
- operation of their department.

In addition to the stakeholder interviews described above, the security project team toured ten buildings and interviewed stakeholders associated with the facility. The project team's goal was to physically assess the security issues and concerns associated with facilities targeted as typical or requiring special needs in the study area. This scope of work focused on site related threat information that will be used to establish appropriate solution criteria in order to provide a secured operating environment.

The buildings toured were selected by the study team as potentially the most threatened on the basis of being a national symbol, a good target for disruption, or having likely enemies. The ten buildings toured are listed in *Table 4*.

**Table 4: Buildings Toured for Security Review**

Henry J. Daly Building (Metropolitan Police Department & Department of Motor Vehicles)	US Court of Appeals for the Armed Forces
E. Barrett Prettyman Federal Courthouse	FBI Field Office
US Tax Court	H. Carl Moultrie I Courthouse
Canadian Embassy	Office of the US Attorney
One Judiciary Square (441 Fourth St, NW)	Supreme Court of DC Building A

### III. Findings

The following are data and observations obtained from the sources listed above. This information relates to several areas affecting Judiciary Square including:

- traffic operation
- parking
- bicycles and pedestrians
- security

#### **Traffic Operations**

The traffic in the study area was observed by the Study Team in addition to volume counts being taken and speed and delay runs being made. The DC Courts Master Plan documents made the following statements regarding traffic behavior in Judiciary Square:

- Vehicles access the study area in a well distributed pattern, with C Street, E Street, Third Street, and Indiana Avenue being the more heavily used roadways and access portals.
- The study area intersections currently operate within the acceptable standards of the District of Columbia Department of Transportation (DDOT), except for the Third Street/F Street intersection that operates at a Level-of-Service E during the afternoon peak hour only.
- The intersections of Third Street at D Street and at Constitution Avenue are approaching capacity conditions during at least one peak hour.

#### **Traffic Volume**

The detailed count data are provided in *Appendix C*. Average Daily Traffic (ADT) and peak hour volumes are shown in the *Table 4*, below. Average total daily volumes are shown in *Figure 4*. Diurnal curves were prepared and are included in *Appendix D*.

Table 5: Average Daily Traffic and Peak Hour Volumes

Street	ADT		Peak Hour	
Third Street	6,820 NB	7,647 SB	749 NB	779 SB
Sixth Street	9,366 NB	5,202 SB	803 NB	532 SB
C Street	2,899 EB	1,279 WB	350 EB	126 WB
Indiana Avenue	2,869 EB	4,421 WB	270 EB	434 WB
E Street	6,015 EB	6,281 WB	593 EB	630 WB
F Street	2,540 EB	2,538 WB	241 EB	241 WB
G Street	2,588 EB	3,888 WB	250 EB	287 WB

The east-west streets carry the lowest volumes, except for E Street, which provides the only bidirectional connection across the I-395 freeway within the study area.

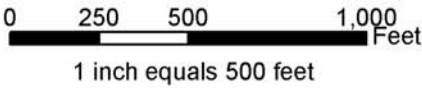
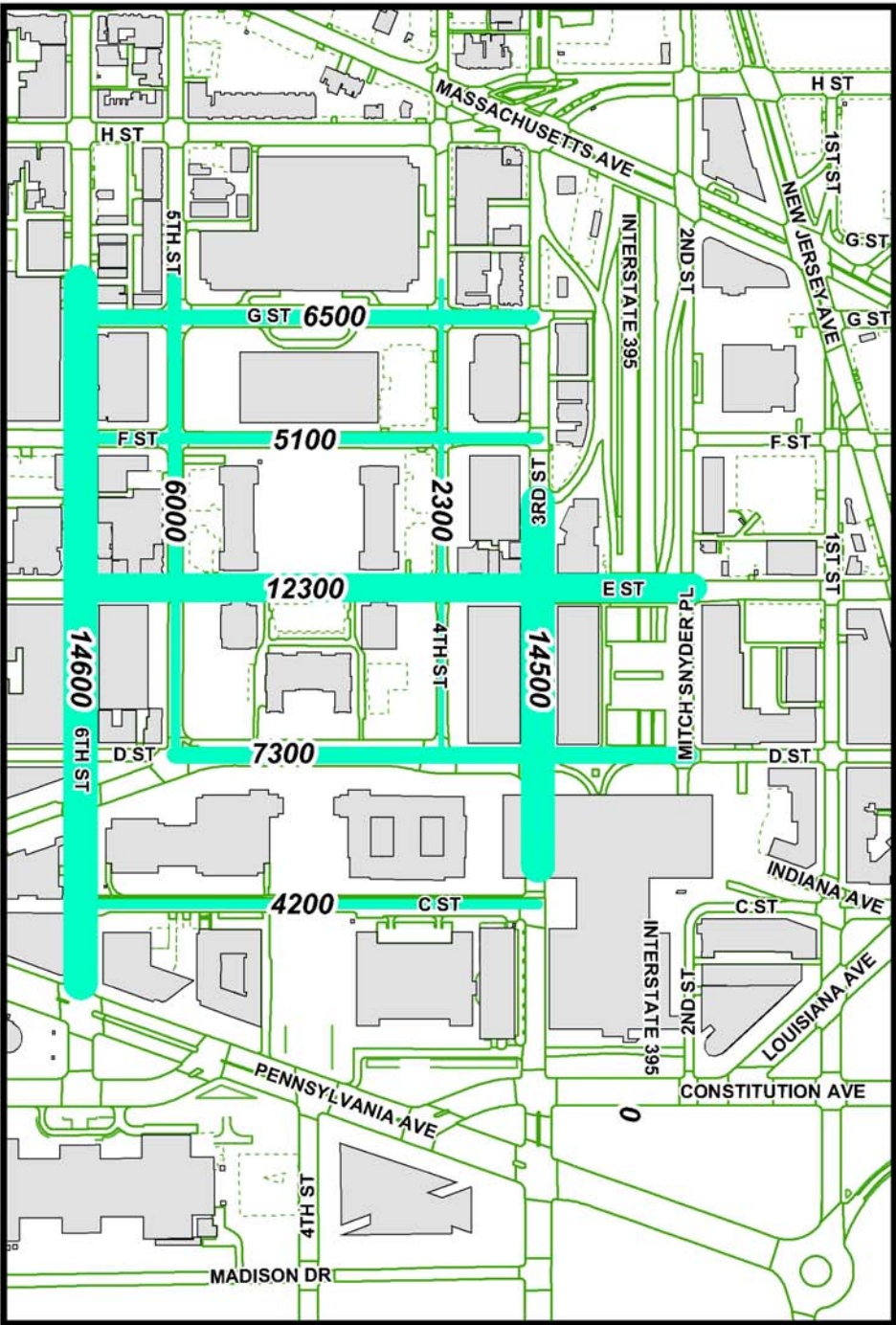
Traffic volumes on Third, Sixth, and E Streets vary over the course of the day in a pattern typical of commuter behavior. Noticeable peaks occur in the morning and evening rush hours with a smaller noon time peak in the middle of the day. Both C Street and D Street/Indiana Avenue have a different pattern—traffic rises to a peak later in the morning and then declines over the remainder of the day. This would appear to be consistent with traffic to the courts. Finally, G Street traffic follows neither pattern but instead maintains a relatively low level throughout the day.

Directional imbalances are seen on C Street, Indiana Avenue, G Street, and Sixth Street. C Street becomes one-way eastbound midway between Third and Sixth Streets lowering the westbound volume. Indiana Avenue becomes D Street east of Fourth Street, and D Street eastbound terminates in the freeway entrance ramp just east of Third Street. This limits eastbound volumes. The majority of East bound traffic is going only to the freeway while westbound traffic is coming from the freeway as well as further east. Sixth Street has a significant imbalance in directional volumes over the course of the day. Northbound Sixth Street traffic is 80 percent higher in the northbound direction over the southbound. Therefore, alternative routes are being used for the return trips. Third Street, for example, shows an imbalance in the opposite direction though not to the same order of magnitude.

C Street has a high peaking factor with twelve percent of its total daily volume being carried during the peak hour.

Figure 4: Average Daily Traffic

Findings



### Speed and Delay

The speed and delay studies give an indication of the impact that intersections, parking, pedestrians and other traffic behavior have on the operation of route. The study measures the total travel time for a route between two fixed points and records the location, duration and cause of all the delays on that route. The record sheets and results summary is included in *Appendix E*.

The following tables summarize the results of those studies.

**Table 6a: Speed and Delay Summary (AM Peak Period)**

Street	Direction	Travel Time (seconds)	Delay (seconds)	% Delay	Ave Speed (mph)
D	Westbound	257	68	26%	6.72
	Eastbound	98	4	4%	10.10
E	Westbound	269	37	14%	8.63
	Eastbound	134	47	35%	13.90
6th	Southbound	260	146	56%	10.00
	Northbound	155	34	22%	7.20
3rd	Southbound	312	105	33%	9.12
	Northbound	472	188	40%	13.60

Table 6b: Speed and Delay Summary (Midday Period)

Street	Direction	Travel Time (seconds)	Delay (seconds)	% Delay	Ave Speed (mph)
D	Westbound	347	176	51%	3.53
	Eastbound	130	56	43%	6.57
E	Westbound	196	118	60%	5.82
	Eastbound	131	54	41%	7.03
6th	Southbound	-	-	-	-
	Northbound	-	-	-	-
3rd	Southbound	-	-	-	-
	Northbound	-	-	-	-

\* Studies were conducted only on D/Indiana and E Streets in the midday.

Table 6c: Speed and Delay Summary (PM Peak Period)

Street	Direction	Travel Time (seconds)	Delay (seconds)	% Delay	Ave Speed (mph)
D	Westbound	183	100	55%	4.78
	Eastbound	85	31	37%	8.74
E	Westbound	132	63	48%	4.25
	Eastbound	66	13	19%	6.87
6th	Southbound	191	88	46%	7.34
	Northbound	265	145	55%	12.40
3rd	Southbound	209	147	70%	6.12
	Northbound	173	39	23%	4.99

The percentage delay indicates the amount of the journey which is spent delayed (defined in this study as being stopped or moving at a negligible speed). Hence a fifty percent delay means that half the travel time of a run was spent at a stop (or near stop).

The speed and delay runs show that the higher volume streets tend to generate more delay and that the PM peak hour is worse than the AM peak. D Street, however, has a midday peak during which it is operating

at its worst. Although the percentage delay differs little for the PM peak the average speed is much slower and the travel time much greater through midday.

### Accidents

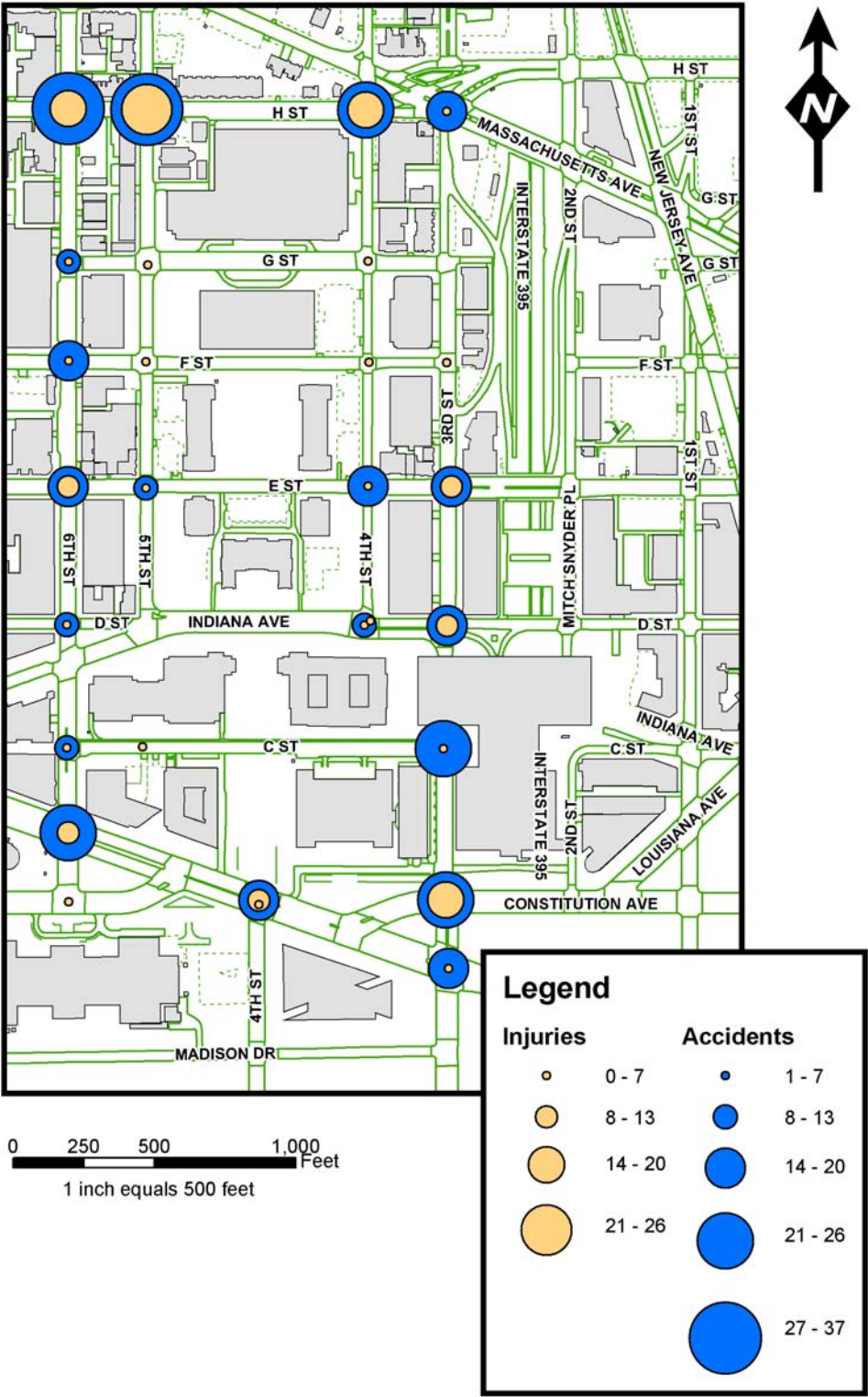
The District Department of Transportation provided accident data for the study area for years 2000 through 2002. These data are collated in *Figure 5*.

The intersections with the most recorded accidents are on those routes with the highest volume and are located on the periphery of the study area. The intersections within the core of Judiciary Square have considerably less accidents overall and less injuries. The accidents rates are not exceptional and are appropriate to conditions in a city and to the volume of vehicular and pedestrian traffic in the locations shown.

## Findings

Figure 5: Accident Locations

Findings



## Parking

The recorded parking types have been divided into four main groups:

- No Parking Permitted
- Public Parking – metered, free, and restricted
- Official Parking
- Handicapped Parking.

The official spaces were further divided into the following categories:

- Government / Official
- Police Attending Court
- Police
- US Marshals.

The total amount of spaces by type is shown in *Table 6a and 6b*.

**Table 7a: Parking Allocation by Street**

Street	Public Spaces	Handicapped Spaces	Official Spaces	Total
3rd	78	-	-	78
4th	49	1	34	84
5th	108	-	-	108
6th	79	-	-	79
C	75	3	32	110
D	88	-	41	129
E	47	1	31	78
F	63	2	7	72
G	65	-	-	65
H	32	-	-	32
<b>Total</b>	<b>684</b>	<b>7</b>	<b>144</b>	<b>835</b>

**Table 7b: Official Parking Allocation**

	Government / Official	Police Attending Court	Police	US Marshals
<b>Spaces</b>	<b>35</b>	<b>55</b>	<b>28</b>	<b>30</b>

The locations of this parking are shown in *Figures 6a and 6b*

The DC Courts Master plan stated:

- The availability of parking is a critical problem with in the master plan study area and more so within the Master Plan Site Area. This

situation results in illegal parking on several roadway segments as well as the inefficient circulation of motorists seeking parking spaces.

At present parking is disorganized and regulations are frequently violated.

Some examples of disorganization include:

- More people receive on-street parking permits than there are designated spaces to park in.
- Permits appear to be issued by several different agencies.
- Vehicles are parked in spaces reserved for official use without a permit displayed. In some cases a police uniform patch is placed in the windshield as a substitute for a permit.

Commonly observed violations are:

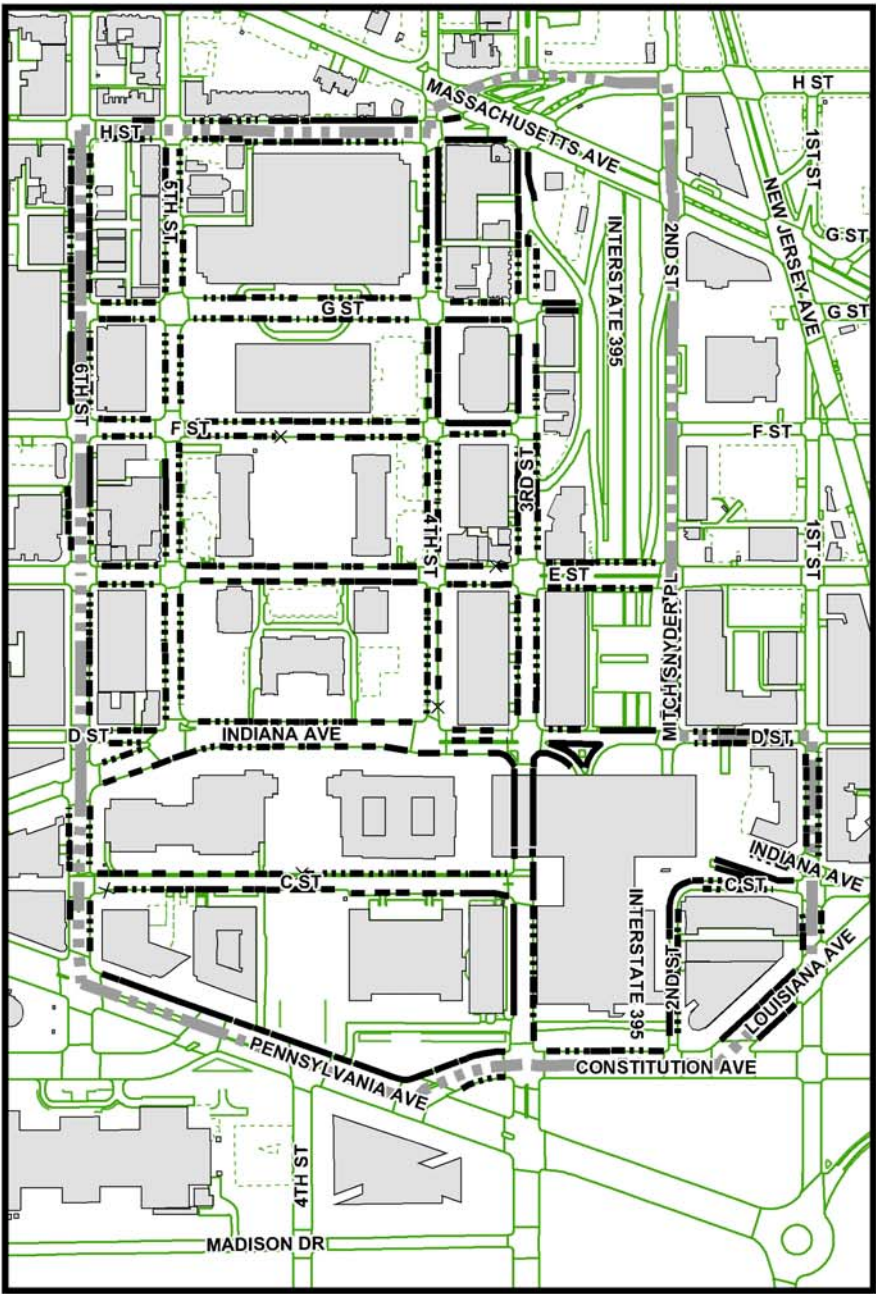
- Parking all day at two-hour meters.
- Three cars are observed occupying the space of two parking meters.
- Vehicles routinely parked in crosswalks.
- Double parking or idling in travel lanes.

Early in the field investigation few vehicles were observed with tickets for parking violations. On later days more enforcement activity was observed, including ticketing and booting. Towing was not observed. District parking regulations are usually enforced by the Department of Public Works (DPW), Parking Services Division. However, in Judiciary Square there are multiple agencies responsible for parking enforcement. C Street, D Street, Indiana Avenue and the expert witness parking on E Street between 4<sup>th</sup> and 5<sup>th</sup> Streets are the responsibility of the Metropolitan Police Department. 4<sup>th</sup> Street between E Street and Indiana Avenue is covered by Protective services. All other streets are enforced by DPW.

## Findings

Figure 6a: Parking by Type

Findings



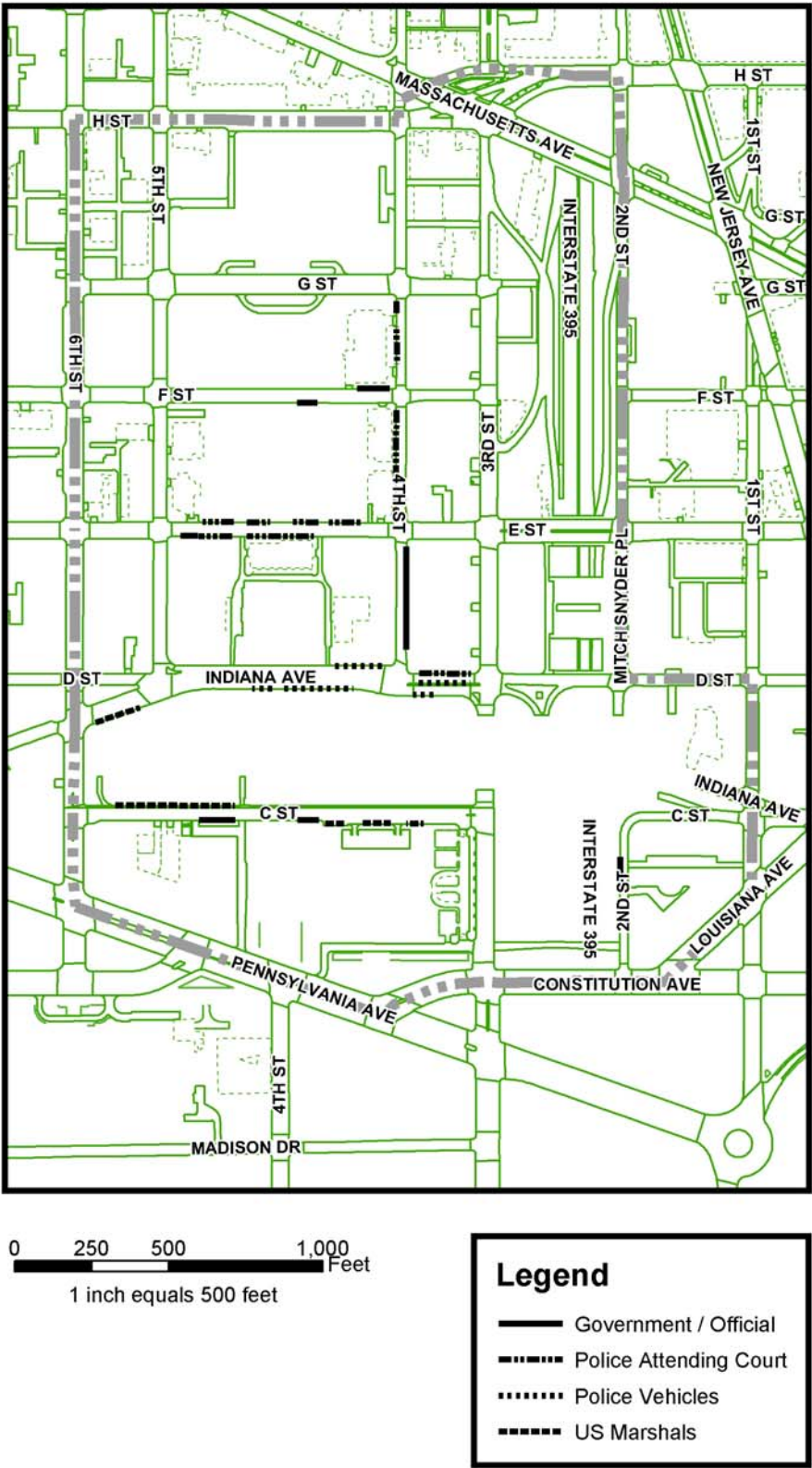
0 250 500 1,000 Feet  
1 inch equals 500 feet

**Legend**

- No Parking
- - - - Public Parking
- · · · Official Parking
- × × × × Handicapped Parking

Figure 6b: Parking by Type

Findings



## ***Bicycles and Pedestrians***

Field observations confirmed the DC Courts Master Plan finding that:

- Pedestrian activity is significant, particularly from the Judiciary Square Metrorail Station and the land uses south of E Street. This situation contributes to significant vehicular-pedestrian conflicts at several intersections, particularly at Fourth Street and D Street

The bicycle and pedestrian inventory was mapped as shown in *Figures 7a* and *7b*. The locations of the proposed cycle paths were provided by the District Department of Transportation.

Following are the observations were made:

### ***Bicycles***

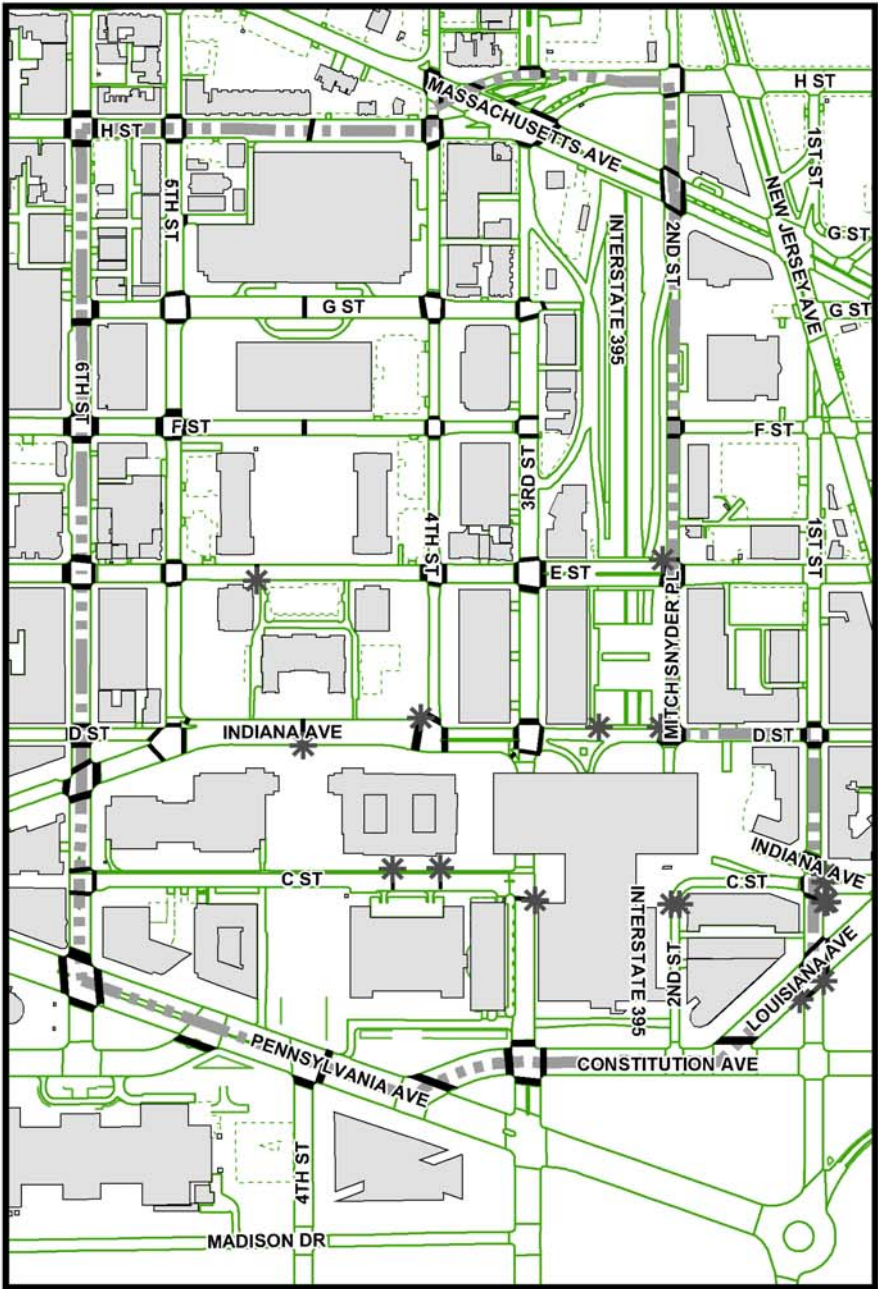
- Bike racks are not provided at every building.
- Bike racks are of inconsistent design across the study area.
- Bikes were found to be chained to parking meters and parking signs because there were no bike racks close by.
- Few bicyclists were observed over the several days of field investigation (which included a variety of weather conditions).

### ***Pedestrians***

- A mixture of new- and old-style wheelchair ramps was found. (New ramps have flared sides, old ramps have no flares.)
- A few locations had missing wheelchair ramps (for example, where a crosswalk is marked).
- Numerous cases of vehicles parked in crosswalks were observed.
- Large volumes of pedestrians cross the intersection of Fourth and Indiana, due in part to the nearby Metrorail exit. Pedestrians frequently cross outside of the striped crosswalks.
- Large volumes of pedestrians also cross the intersection of Fifth and Indiana to get to the Moultrie Courthouse. The crosswalks are oddly placed, mainly because on-street parking is oddly placed.

Figure 7a: Pedestrian Facilities

Findings

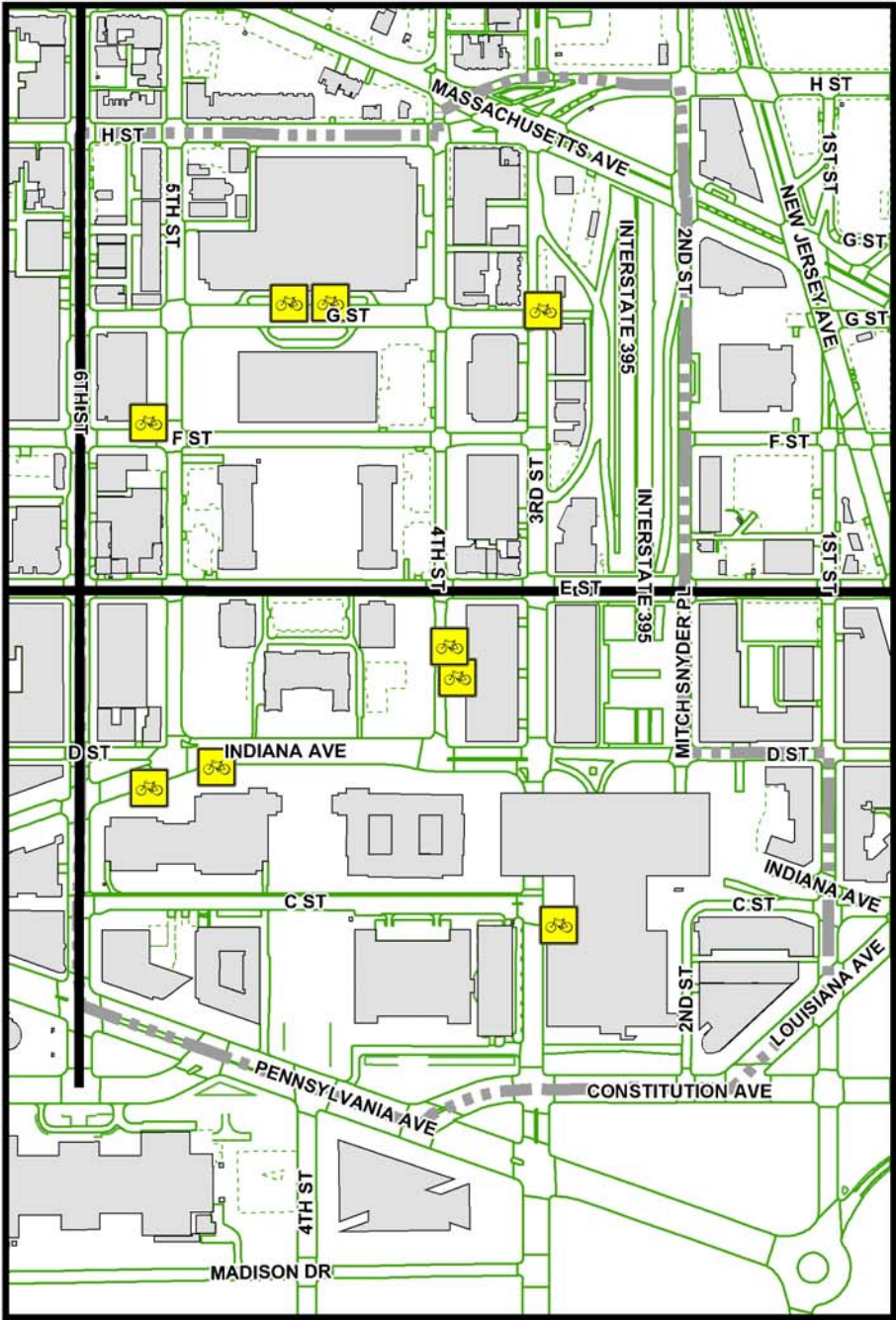


0 250 500 1,000 Feet  
1 inch equals 500 feet



Figure 7b: Bicycle Facilities

Findings



**Legend**

Proposed Bike Routes

Existing Bike Racks

### ***Transit***

The transit provision remains as stated in the DC Courts Master Plan.

- In addition to the transit services provided by the three area Metrorail stations, Metrobus routes operate along E Street, Pennsylvania Avenue, and Seventh Street.

Washington Metropolitan Area Transit Authority provided ridership for the Metrobus and Metrorail, which are included in *Appendix F*

The location of bus stops and shelters were recorded on site and are shown in *Figure 8*

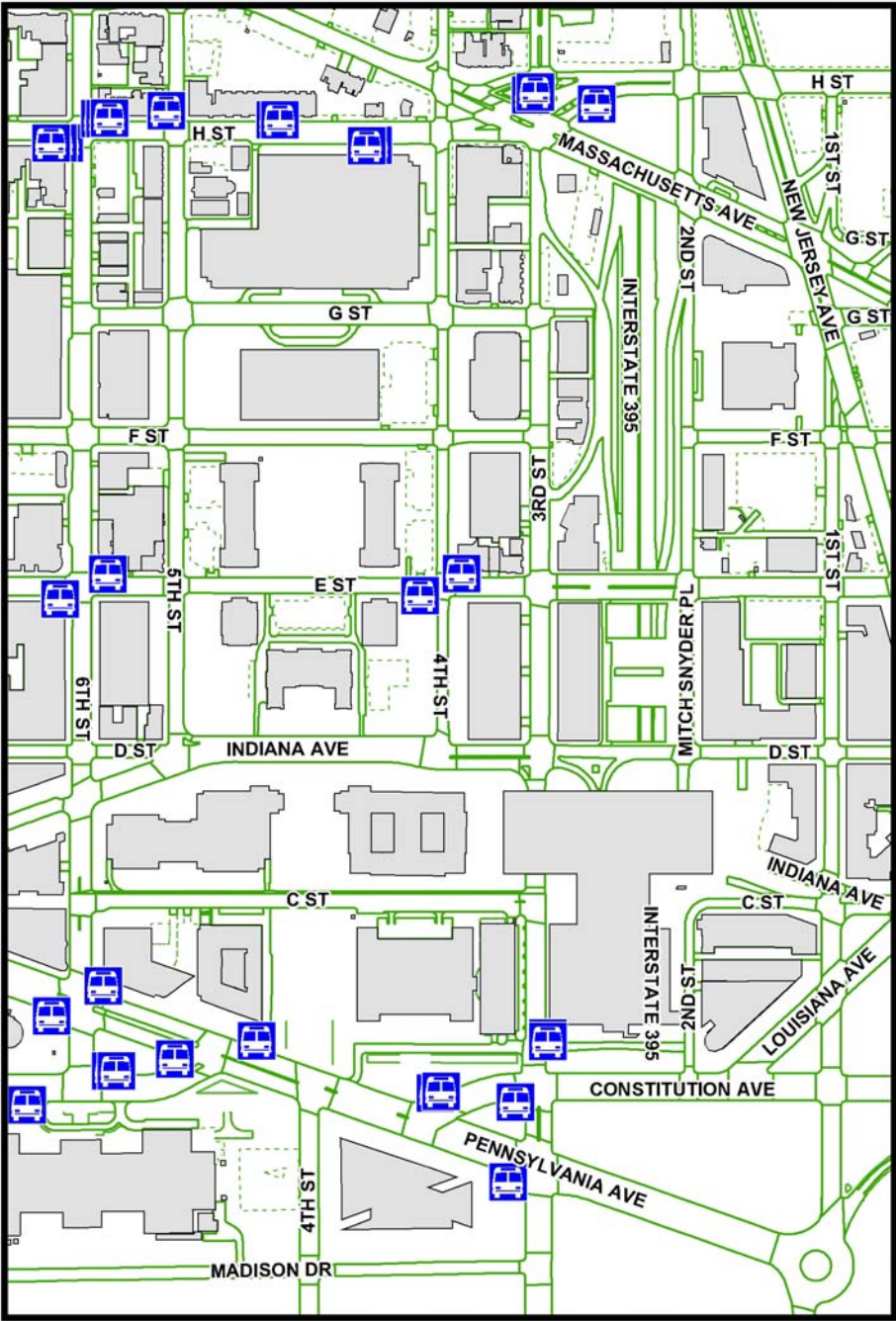
In addition to the DC Courts Master Plan statement:

- The study area consists of governmental and institutional uses that generate significant volumes of employee and visitor traffic during weekday peak and off-peak periods.

From interviews with agency representatives it is clear that most employees in the study area commute by Metro. Estimates in the 80 to 95 percent mode share for Metro were given. Two notable exceptions to this are the U.S. Court of Appeals for the Armed Forces and the Canadian Embassy, where nearly all parking needs are met on site. At all other sites, some parking is provided for select employees. Limited market-rate parking is also available at some locations.

Figure 8: Bus Stops

Findings



**Legend**

 Bus Stops

## Construction

There are number of current and proposed construction sites intended for the Judiciary Square. These are summarized in the table below and *Figure 9*.

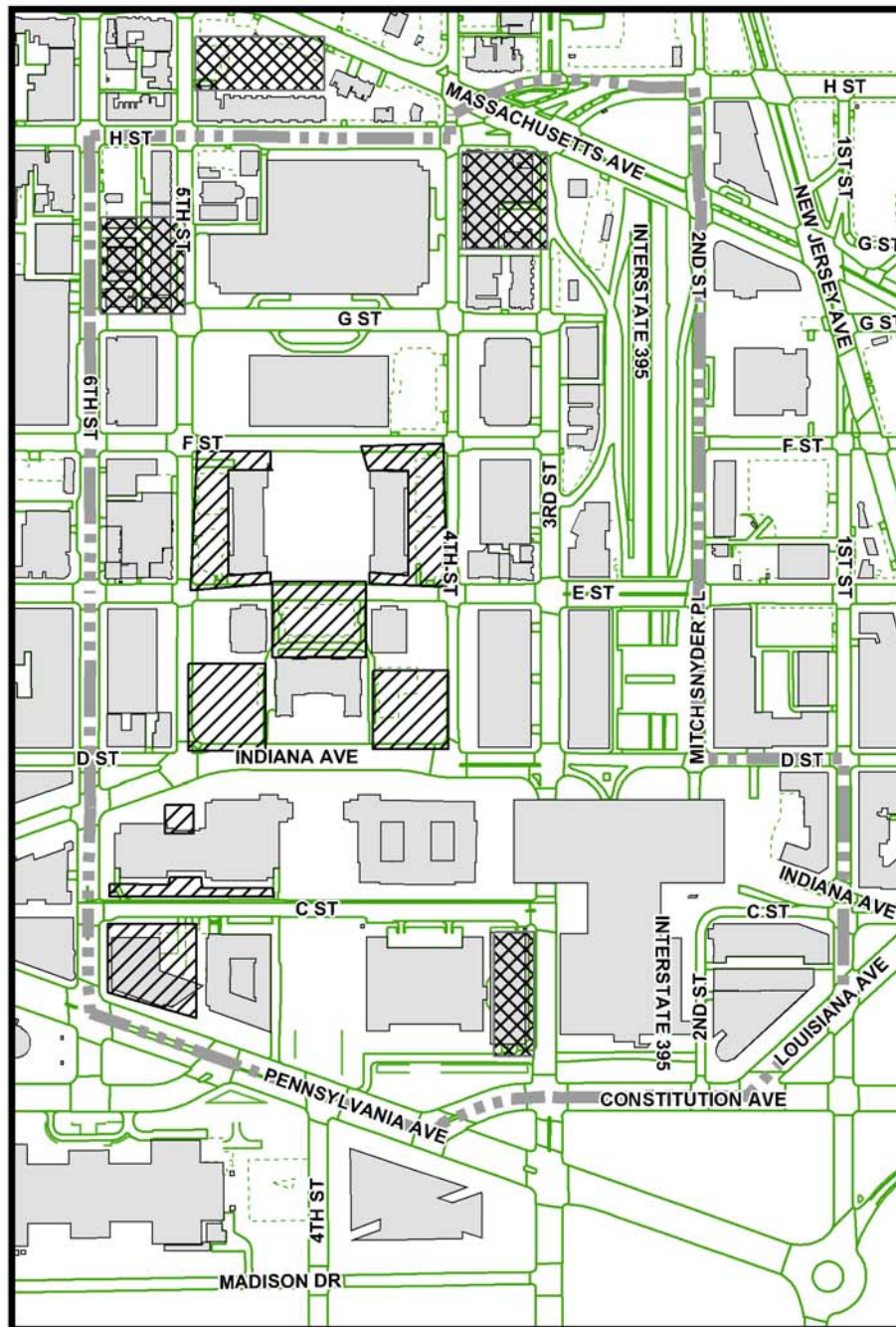
**Table 8: Current and Proposed Construction**

Development	Land Use	Status
Massachusetts Courts	Mixed-Use, Residential & Retail	Under Construction
Meridian at Gallery Place	Residential Luxury Apartments & Retail	Under Construction
Avalon at Gallery Place	Luxury Apartments	Under Construction
Gallery Place	Mixed-Use, Residential, Retail, Office & Entertainment	Under Construction
Jefferson at Penn Quarter	Mixed-Use, Residential, Retail and Theatre	Under Construction
Terrell Place	Mixed-Use, Office, Retail & Residential Apartments	Under Construction
Georgetown University Law School Addition	University	Under Construction
National Association of Realtors Building	Office	Under Construction
Freedom Forum – Newseum	Mixed-Use, Museum & Residential	In Design
National Law Enforcement Museum	Museum	In Design
E Barrett Prettyman Federal Courthouse	Courthouse Addition	Under Construction

There is also construction just outside of the study area on D Street and E Street which impacts the traffic in Judiciary Square.



Figure 9: Major Projects

Findings



0 250 500 1,000  
Feet  
1 inch equals 500 feet

**Legend**

-  Proposed
-  Under Construction

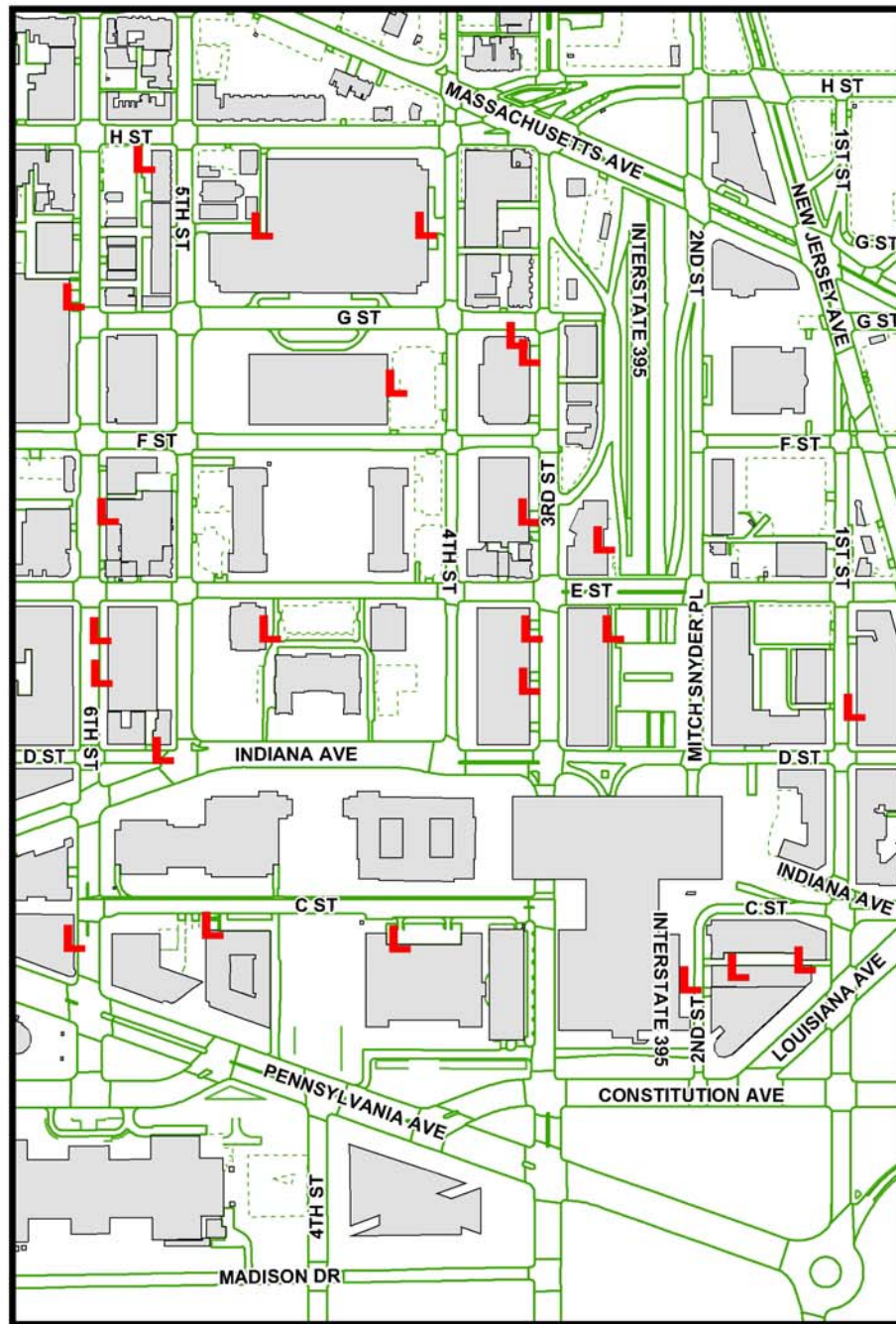
### ***Loading***

The facilities in and around the study area have multiple loading bays. These consist of both on street and off street operations. The location of loading bays is shown in *Figure 10*. The on-street bays are impacted by the illegal parking. On several occasions service vehicles were observed double parking because their direct access to the curb was blocked. The off-street bays tended to cater to larger trucks. The maneuvering into the bay by these vehicles took sometime, and would cause significant disruption to traffic by blocking one or both directions of flow.

## Findings

Figure 10: Loading Locations

Findings



0 250 500 1,000 Feet  
1 inch equals 500 feet

Legend

**L** Loading Dock

## Security

During the stakeholder interview process many topics were discussed. The objective of the interviews was to establish a base line of perceived and actual vulnerabilities and threats to the stakeholder. In addition, a basic understanding of the security operations at each site was gained. Perimeter access policies and procedures were discussed, with attention paid to how employees and visitors may be treated differently.

The types of screening provisions at each facility were reviewed. Commonly used screening techniques were identification check, magnetometers, x-ray machines, and visual inspection of belongings. It was found that some facilities screen employees and visitors differently.

The operation of and security at loading docks and parking garage entrances were also reviewed during the interviews. Stakeholders were able to express concerns about vehicular access points to their buildings.

Finally, any controls placed by agencies on vehicular traffic and curbside use adjacent to their facilities were discussed. This included how access by emergency vehicles may be managed.

As part of the field investigation, access points to all study area buildings were identified. Shown in *Figure 11* are pedestrian doors, entry doors that are closed (such as emergency exits), and parking garage entrances. Loading dock locations are depicted in *Figure 10* above.

## Threats

The security project team determined that the common perceived threat is based on the potential of increased pedestrian and vehicle traffic to the study area during the construction and follow on operation of the Newseum. Stakeholders are concerned that there will be a requirement to modify their operations, to maintain the way they currently conduct business, in order to continue their present level of service.

Additional concerns included inconsistent or non-existent parking enforcement and lack of stakeholder control of building access to other building tenants or visitors.

More specific threats were discussed with stakeholders at the ten identified buildings where facility tours were conducted. Based on stakeholder input and an assessment of each facility, its purpose, and its

operations, a matrix was created to summarize the perceived threats. See *Table 9*. Threats are defined in *Table 10*.

**Table 9: Threat Matrix**

Facility Toured	Bombing	Walk-Up Shooting	Drive By Shooting	Kidnapping	Disruption of Services (Communications & Utilities)	Emergency Vehicle Access	Street Crimes
Prettyman Courthouse (US Marshals Svc)							
Henry J Daly Bldg (Metropolitan Police Department)							
US Tax Court							
Canadian Embassy							
One Judiciary Square							
US Court of Appeals for the Armed Forces							
Superior Court Bldg A (Secret Service)							
FBI Field Office							
Moultrie Courthouse (DC Courts)							
Office of the US Attorney							

**Table 10: Threat Definitions**

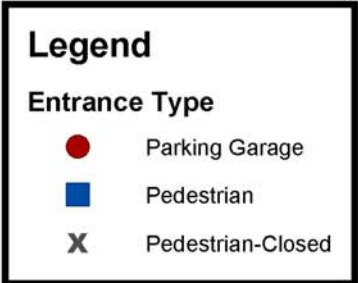
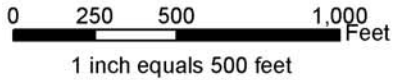
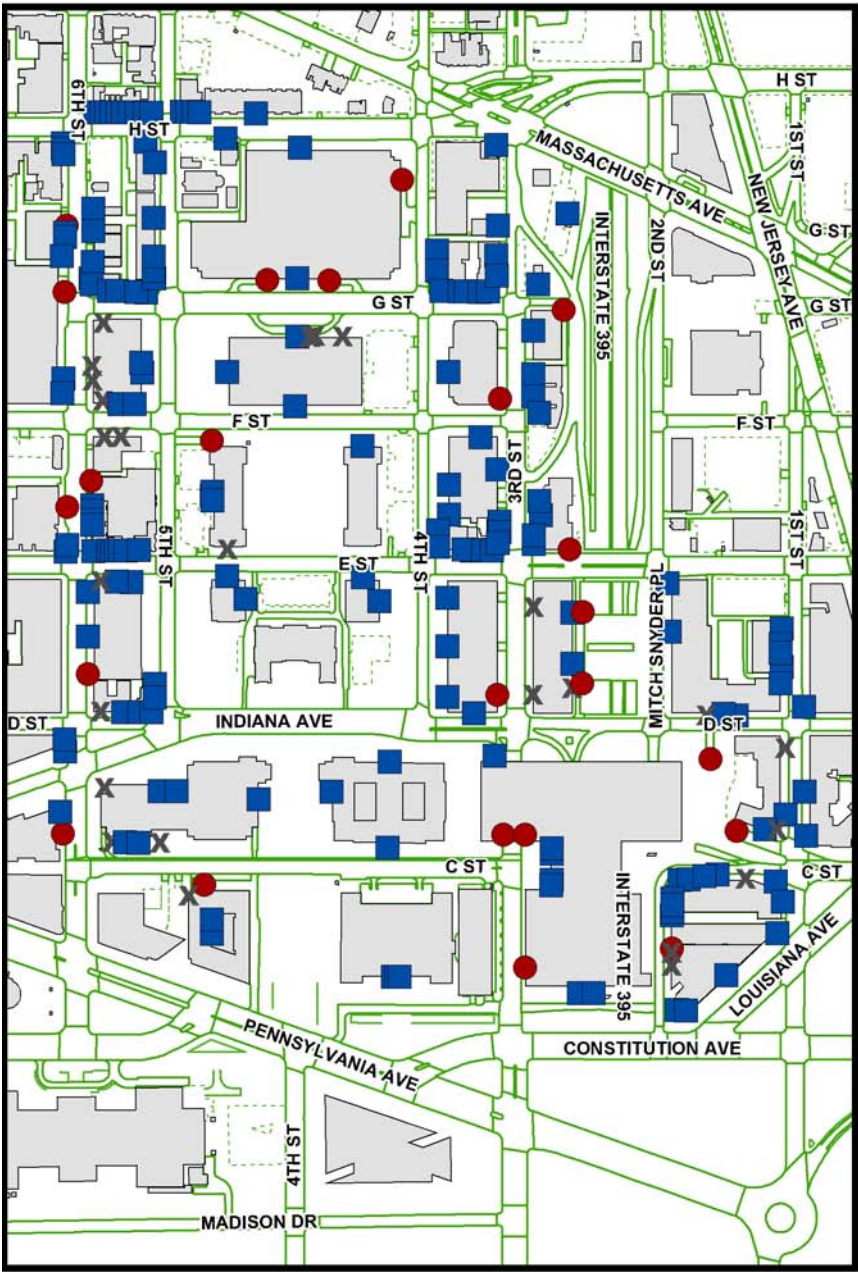
Threat	Definition	Possible Purpose
Bombing	Car bomb, truck carrying explosives, package bomb, or bomb carried on a person.	Silence or intimidate judges, prosecutors, witnesses, or jurors. Make a political statement.
Walk-Up Shooting	Targeted shooting in which the shooter is on foot, in advance of or at the building security checkpoint.	Kill judges or witnesses in particular court cases. Grudge-motivated killing. Kill high-profile defendants in criminal cases. Political assassination.
Drive By Shooting	Targeted shooting in which the shooter is in a vehicle aimed at individuals outside a building.	Kill judges or witnesses in particular court cases. Kill high-profile defendants in criminal cases.
Kidnapping	Forcefully seizing a high-profile individual such as a judge, public official, or foreign dignitary, either within or outside a building.	Leverage to make demands for money or policy changes. Intimidate or threaten witnesses or jurors.

Threat	Definition	Possible Purpose
Disruption of Services	Severing or limiting communications or utility services, either intentionally, accidentally, or through system failure.	For intentional disruption: Make a political statement. Demand policy changes.
Emergency Vehicle Access	Limited ability to access a facility by fire truck, ambulance, or police car due to traffic congestion or improperly parked cars or delivery vehicles.	Intentional disruption of emergency vehicle access may facilitate carrying out one of the above threats. Disgruntled employee or customer.
Street Crimes	Mugging, untargeted shooting, rape, vandalism, theft, drug offenses, etc.	Obtain money or drugs. Hate crime.

# Findings

Figure 11: Building Entrances

Findings



## IV. Existing Conditions Assessment

An assessment of the data supplied by various participants to the study combined with that collected specifically for this effort permitted the Study Team to draw some conclusions on transportation and security in the Judiciary Square Study Area. These conclusions on the existing conditions were made for both the Study Area as a whole and for individual elements within the Study Area.

### *Principal findings (Area Wide)*

#### **Traffic Behavior and Conditions**

The traffic counts, turning counts, and Level of Service (LOS) calculations indicate that the traffic volumes in the Judiciary Square study area are not large enough to account for congestion on their own. While a single lane is estimated to have a capacity of approximately 900 vehicles an hour, the most significant volume recorded was approaching 800 vehicles on Sixth Street. In the District of Columbia an intersection is considered to be not failing at a LOS of D or above. All of the intersections in the study area were passing with the exception of Third Street at F Street in the p.m. peak.

The congestion observed in the field was caused by operational failings in and around the study area. None of the streets in the study area is reaching capacity in terms of throughput volumes. From this it can be concluded that traffic congestion being experienced is not driven by volumes but by other factors such as signal coordination, parking maneuvers, and construction impacts.

#### **Parking**

Parking is in limited supply and results in motorists spending time searching for parking, double-parking, and illegally parking. Loading and deliveries are also affected and these activities often take place on an ad hoc basis and in undesirable locations.

#### **Bicycle and Pedestrian**

The presence of bike racks at some of the public buildings and extensive sidewalk and path network makes the study area attractive for cycling and walking. Given the transit route structure and constrained parking supply, travel within Judiciary Square is most frequently made by foot.

Pedestrian traffic is also quite high. Between transit riders walking to and from destinations within the study area, and motorists walking to and from the limited on- and off-street parking in and around the area, pedestrian activity is high throughout business hours. Pedestrians are well accommodated with marked crosswalks and handicapped ramps at most street crossings, but gaps in the pedestrian network do occur.

### **Transit**

Judiciary Square is accessed by automobile, Metrorail, Metrobus and other private buses and shuttles, bicycle, and by foot. The DC Courts Master Plan noted that approximately 50 percent of those employees arriving in the study area do so by other than single-occupant vehicle. With one Metrorail station within the study boundaries (Judiciary Square) and two adjacent to the area (Archives-Navy Memorial, Gallery Place), and 12 Metrobus routes passing through the area, transit accessibility is as good as anywhere in the Metropolitan Washington area.

### **Street Closures**

Temporary street closures, for deliveries of goods and people (as in the case of the courts), are done by individual organizations without coordination with other agencies. The FBI, for example, has banned all parking adjacent to the FBI Washington Field Headquarters, and the U.S. Marshals Service periodically closes C Street, NW when important prison transfers take place. No coordinating body governs these activities.

The National Building Museum and the Law Enforcement Officers Memorial each close F Street approximately once a year. In addition, the MCI Center occasionally closes F Street west of the study area, which impacts traffic operations within the study area. These street closures are coordinated through the District government.

### **Security**

The security project team discovered that the application of security provisions throughout the study area was inconsistent. Building stand offs, to prevent accidental or intentional vehicle intrusion from the street, are hardened by parked vehicles, trees, planters, bollards, trash receptacles, and streetlights.

Building perimeter protection provisions included controlled pedestrian entry at building lobbies with security guards, photo identification verification (agency or government issued), sign in/out register, bag,

purse and briefcase inspection, electronic card readers, video surveillance, turnstiles, magnetometer (metal detectors), and x-ray machines. At some facilities, visitors are screened more rigorously than employees.

Security guards, photo identification verification (agency or government issued), sign in/out register, physical inspection, moving barriers, video surveillance, and card readers are the security provisions in place at vehicle entrances to parking garages and loading docks.

A series of problems was identified that could be addressed in a later phase of this study.

- Screening employees less rigorously than visitors may increase exposure.
- Vehicle screening at some parking garages causes queues to form blocking travel lanes.
- The level of vehicle screening at parking garages within the study area varies and may not always be appropriate for the facility.
- Inconsistent parking permits and lax parking enforcement allows unknown vehicles to park near potentially sensitive buildings.
- Insufficiently sized loading bays make it difficult for buses or other delivery vehicles to pull off the street and unload in a more secure environment.
- The Third Street Tunnel along the eastern study area boundary is of concern to adjacent stakeholders.
- Setbacks to some of the older court buildings are less than desired under current guidelines.
- Traffic congestion related to construction activities, double parked private vehicles, and idling delivery vehicles creates a security concern for transporting sensitive persons to the courts.
- There is currently no common method of coordinating operational or emergency issues between agencies or organizations within the study area.
- Some facilities used by the general public are located near facilities that may be at higher risk of being targeted by criminal activity. This increases the exposure faced by the general public.

## ***Principal findings (By Street)***

### **C Street**

This street is wide (approximately 48 feet) with no striping to designate lanes or parking spaces. Congestion appears to be largely a result of construction of the Prettyman courthouse addition and double parked delivery vehicles. Parking regulations are routinely violated in the eastern half of this block. Vehicles are found parked in crosswalks. Cars are parked in spaces designated for motorcycles. The one-way operation of the eastern half of this block appears to function adequately.

### **D Street / Indiana Avenue**

The presence of the H Carl Moultrie I Courthouse and the MPD Offices, in the Henry J Daly Building, account for the majority of traffic on D Street and Indiana Avenue. Very little through traffic was observed.

The worst congestion was observed at the intersection of Fifth Street and Indiana Avenue, in front of the courthouse. At peak times a number of vehicles are double parking or are otherwise parking illegally in order to drop off visitors to the courthouse. This is particularly apparent in the eastbound direction. Westbound there is a significant right turn from Fifth Street into D Street. This section of roadway rapidly fills with queuing vehicles, blocking the Fifth Street intersection and causing queues to form on Fifth Street and Indiana Avenue (principally on the westbound approach). There are three causes for this:

- Construction west of Sixth Street narrows the street to one lane, limiting capacity and preventing the through movement out of D Street.
- The signals at the Sixth Street and D Street intersection are timed for a large through movement on Sixth Street; little time is allowed for D Street to clear.
- The maneuvering of vehicles into and out of the angled parking spaces on D Street between Fifth and Sixth Streets delays the through movement.

On Indiana Avenue between Fourth and Fifth Streets there are numerous cases of illegal parking and double parking. Although this tends to reduce speeds along Indiana Avenue, the width of the roadway allows for easy passing. It should be noted that the width of roadway may be encouraging the double parking behavior.

Pedestrian activity is not restricted to the appropriate crosswalks and along the entire length of Indiana there is a considerable amount of illegal crossing. Most activity is centered at the courthouse and the MPD offices.

### **E Street**

E Street carries predominantly through traffic, and Metrobus routes D1, D3, and D6 operate along this street. Vehicles are parked along both sides of the road, and were observed parking in no parking areas in front of the Law Enforcement Memorial, at Metrobus stops, and blocking driveways and wheelchair ramps. There is some pedestrian activity at the Law Enforcement Memorial due to the Metrorail entrance, but this is not the cause of any significant delay. There is also construction work at the Juvenile Court, which is blocking the nearside eastbound lane for about 100 feet in front of the building.

Delays on E Street were predominately at the signalized intersections at Third, Fourth, Fifth, and Sixth Streets. Further delays were observed while cars were maneuvering into parking and while a bus was unloading in the outside lane due to parked vehicles blocking the bus stop.

### **Fourth Street**

Fourth Street operates one-way southbound. It is relatively narrow, with parking allowed on both sides of the street except in front of the FBI Field Office. Congestion during the peak period appears to be a result of (1) pedestrian crossings as stop controlled intersections and (2) queuing from parking maneuvers, particularly backing up from the General Accounting Office's parking garage on G Street. Off-peak congestion is largely a result of double parked vehicles. Frequently cars are parked in crosswalks, impeding and rerouting pedestrian flows. Much of the on-street parking is reserved for police officers. Inconsistent and unverifiable parking permits are displayed.

### **Conclusion**

Transportation conditions in the Judiciary Square area are typical of the activity levels of vibrant, downtown locations. While congestion is evident at many locations, there are no systematic problems that render the streets unmanageable. Significant vehicular and pedestrian activity does result in periodic congestion, but is well within the range of what might be expected given the volume of people entering and circulating within the area.

Automobile traffic is moderate, particularly on the commuter routes of Third, Sixth, and E Streets, NW. While traffic volume itself is not a significant problem, the conflicts between standing and parked vehicles, pedestrians, and through traffic do produce congestion and delays to motorists and sometimes hazardous conditions for pedestrians.

It is also apparent that the transportation infrastructure within Judiciary Square has been evolutionary. Parking regulations have developed over time, resulting in confusing and occasionally conflicting regulations for the same stretch of curb. Curb cuts have been added in response to specific changes in the area, and crosswalks have been added or removed without any apparent cognizance of an overall plan.

The one-way use of Fourth Street, NW and partial one-way restrictions on C Street, NW are two examples of changes in the system that appear to have been made in response to specific needs over time. Nevertheless, most transportation needs are met by the existing transportation infrastructure. The grid system of streets is largely complete and logical.

Finally, the Study Area is managed in a very decentralized manner. Enforcement of parking, for example, is not highly regulated, at least in part due to the system of parking permits. Individual agencies and individuals issue their own parking permits, limiting the ability of District parking enforcement agents to properly ascertain legitimate and illegal parkers. Construction occurs without any apparent coordination resulting in congestion on the streets.

Generally, Judiciary Square works well. Clearly, certain operations and particular locations and specific times of the day are in need of improvement. These improvements should be made cognizant of the current functioning of the study area and with recognition of the multi-modal, evolutionary, and decentralized nature of Judiciary Square.